

subject is proved by the fact that they did not finish the Committee and agree to a report in one sitting, as a Committee consisting of meteorologists would have been able to do.

4.—I was obliged to enter into preliminary explanations to enable them to understand the principles of issuing weather forecasts.

5.—The appointment of Captain Tillet on this Committee was unfortunate as his suggestion at a meeting of the British Mercantile Officers' Association as to the issue of isobaric weather charts for the area between Shanghai and Cape Saint James proves at once that he has no acquaintance with the subject, otherwise he must have been well aware that the issue of such charts was impossible with the present number of stations. On the same occasion he practically advised the members to move their vessels during the approach of a typhoon as they had to do sixty years ago, and not to act on the rules founded on our present knowledge of the law of storms.

6.—Some member or members of the Committee acted improperly in giving information after sitting, directly or indirectly, to newspapers, abusing the Government and myself, and have the honor to enclose the minutes of the three meetings held at the weather office, together with the correspondence, including this letter, printed in the *Government Gazette*.

8.—The issue of reports and warnings at present is conducted as well as it can possibly be done on the basis of the data available, and all the information is issued without delay.

9.—The information is not exact; but, such as it is, it is sufficient for intelligent masters of vessels.

10.—Seamen have great confidence in my warnings and obey them always implicitly while in and when leaving the harbour.

11.—The weather forecasts and storm warnings cannot be improved without cables to South Cape, Arding, Fisher Island, and North Borneo, without meteorological telegrams from Hainan and places between Hainan and Cape Saint James, and without the observations being made more accurately in China.

12.—If the Government is prepared to spend large sums of money on cables, instruments, and observers, great improvements will then follow; but possibly it will prefer to leave improvements in telegraph lines in China to the Government of China. The China coast is warned from this Observatory in case of typhoons. These warnings are based on too few and uncertain observations to be exact. If the inhabitants of the Coast Ports want better warnings, and if the Government of Hongkong does not choose to go to additional expense, they ought to address the Inspector-General of Customs, Peking, who might see his way to apportion the cost between the Chinese Government and the various ports. The Col. (a) Government would, no doubt, pay a reasonable share.

13.—In case there be any point on which the Governor is not convinced that no further inquiry is necessary, then I would most respectfully suggest that his Excellency consider the advisability of consulting scientific authorities in England. There is no objection to another Committee to consider the subjects as long as I am a chairman; but I submit that it is not now required. I have the honor to be, sir, your most obedient servant,

W. DOBERCK,

The Hon. G. T. M. O'Brien, &c.

Captain MILLER, Captain TILLET, AND

Captain ANDERSON TO DR. DOBERCK.

Hongkong, 28th September, 1893.

Dear Sir,—In view of the sentiments expressed in the draft of your proposed letter to the Colonial Secretary, which we presume, expresses your own opinion, and which will be impossible for us to acknowledge, which apparently is held by you in this light estimation.

We have, therefore, no course left but to forward to the Colonial Secretary a letter tendering formally our resignation as members of the Committee on meteorological reports and weather forecasts.

We beg to return herewith the draft you so kindly forwarded, on which we had already inserted some notes and remarks before our final decision was arrived at. We remain, your obedient servants,

A. W. MILLER,

Master Attendant, H.M. Dockyard.

A. TILLET,

Marine Superintendent, C. P. R. Co.'s

Vessels.

G. C. ANDERSON,

Marine Surveyor and Superintendent,

Indo-China Steam Navigation Co.,

Limited.

COMMITTEE ON ISSUE OF METEOROLOGICAL

REPORTS AND WEATHER FORECASTS.

First Meeting.

Monday, the 11th September, 1893, at 3 p.m.

Present:—Dr. Doberck (in the chair), Captain

Miller, R.N., Captain Tillet, Captain

Goddard.

The Chairman read letter C. S. O. No. 1,253.

The Chairman suggested that no Chairman

had been appointed.

Captain Goddard thought that the Director

of the Observatory had been appointed.

Commander Miller, R.N., inclined to agree

with the former, and Dr. Doberck with the latter.

Question referred to his Excellency the Governor

for decision.

Captain Tillet explained that the Committee

had power to act as a sub-committee.

Commander Miller, R.N., and Captain

Goddard agreed. The Chairman disagreed.

Question referred.

Captain Tillet recommended Captain Bunsell.

The Chairman opposed.

Captain Tillet recommended Captain G. C.

Anderson.

Unanimously resolved that Captain Anderson

be elected as a member.

The Chairman suggested that a second Naval

Officer be added to the Committee.

Commander Miller, R.N., suggested Com-

mander Lilburn, R.N.

Unanimously agreed.

Second Meeting.

Monday, the 18th September, at 3 p.m.

Present:—The Chairman, Commander Miller, R.N.,

Captain Tillet, Captain Anderson.

The minutes of the previous meeting were

read and confirmed.

Letter No. 1,310 from the Colonial Secretary

United States was the most expensive and the most perfect. The States were covered by a network of telegraphic reporting stations, established at intervals of 25 miles, and worked by officers specially trained and under constant supervision from Washington with instruments continuously verified. Their telegrams and telegraphic weather forecasts sent to each State had precedence of agency. Forecasts are further distributed through telephones. All is done within an hour by a large staff of officials. The magnificent daily isobaric weather charts, necessary, as there are too many stations—about 150—to allow anybody to grasp the distribution of and the changes going on in the meteorological elements at so large a number of stations except by aid of perfection on weather maps. The latter are issued mainly in the interest of agriculture but are highly esteemed by masters of vessels navigating the most western portion of the North Atlantic. Their value would be further increased if they covered the West Indies. But that is not done. There are no daily isobaric charts for the West Indies. England issues isobaric weather charts which are most minute in the British Isles, for which weather forecasts are issued, and giving a rougher representation of the weather along the coast round the Bay of Biscay and down to Gibraltar as well as on the continent. The Japanese tri-daily weather maps were shown and attention called to their minute details, and the weather forecasts for the different parts of Japan. Weather charts from Sydney were shown. The stations in New South Wales, numbered 20 in number, were mostly lying along the coast line, and isobars could therefore not be drawn. These charts did not seem to be needed at all, as the information conveyed could be at least as lucidly exhibited in a table. The weather intelligence issued at Mauritius was highly appreciated by seafaring men. It was based on observations made at the observatory, as there was no cable connection between the islands in the southern Indian Ocean. Captain Tillet was quite right in recommending isobaric weather charts. Such were, in fact, indispensable for forecasting the weather over a large area and for the proper issue of local forecasts. At the same time it could not be expected that forecasts in Southern China or in Europe would be as accurate as on the east coast of North America. There the depressions arrived from inland, whereas in Southern China and in Europe they arrive from the sea. In North China depressions arrive from inland and move towards Japan, so that in the northern part of the Far East forecasts could be issued the same as in America.

Captain Anderson remarked that storms in Japan arrive from the west in winter. The Chairman stated that such was to a great extent also the case in summer. Captain Tillet remarked that the Japanese weather charts were not much value as vessels leaving Japan. They might be of local use. The Chairman said he had often heard Captain Anderson remark that they got more notice of storms raging out at sea in Hongkong than in Japan; but the system of issuing meteorological information there is nevertheless much superior to our own.

Mr. F. G. Figg, being called upon to give evidence, explained that the number of stations in China was not sufficient for constructing isobars, so much more as the stations were all lying along the coast. They were not selected with any reference to proper exposure anywhere, as the observations were made in Customs houses in sheltered positions by observers who had little or no training and whose instruments were often out of order and only to some extent compared here. It is desired to issue the forecast for the day by 10.30 a.m., but at this time usually not more than half the observations from the other stations have arrived. The forecast must be made without them, or in case of doubt, it is delayed till more telegrams arrive. This is very unsatisfactory for the general public, and not less so for those who have to frame the forecast. From two most important quarters, Formosa and Hainan, telegrams are so seldom received (and if received are never in time) during the typhoon season that we never expect them and for purposes of forecasting, they are, therefore, almost if not quite useless for the greater part of the year. In Hainan, however, the only one from which we are supposed to get telegrams. South Cape is not in telegraphic connection with the outer world. From Arding telegrams are in summer not received more than twice or thrice in a fortnight.

The Chairman—How do you make the forecasts then? How is it done?

Mr. Figg—An examination of the observations is made and the changes in pressure, wind, and weather, which we take place since the last observation at the various stations, is noted. The relative heights of the barometer and the rate of changes of pressure then in progress at each station is then taken into account and an estimate formed of how the wind is going to change. As the stations are far asunder and for reasons before mentioned it is easily seen that inferences so drawn are sometimes incorrect and more especially as the weather on the coast is greatly modified by pressure and temperature conditions prevailing over Central China and of which we have no knowledge absolutely nothing; and which weather is forecast using the foregoing data and by inspection of the appearances of the sky with regard to clouds and dampness. Use is also made of the rain-band spectroscopic, but in my experience here it is of very little use for forecasting rain, though perhaps as regards forecasting thunderstorms its indications are sometimes of service. As we have no isobars we cannot tell the weather from their shape as in other places.

Captain Tillet—With how many stations are you in telegraphic connection?

The Chairman—There are about 18 if you count them all; but stations in or very near the colony can hardly be counted as more than one station.

Commander Miller, R.N.—They would count for more than one station if the observations were recorded very accurately.

The Chairman—Mr. Figg, if the stations were all right and scattered over China, how many would you want to make isobaric weather charts? Would you do it?

Mr. Figg—Hardly.

The Chairman—Would you do it?

Mr. Figg—They might.

Commander Miller, R.N.—How many stations would you require round the China Sea to draw isobars?

The Chairman—It is impossible to draw isobars over the sea from stations on shore. With 100 stations 1,000 would not be enough, but if the stations were all right and properly distributed so would go a long way to allow inferences to be drawn regarding the weather over the sea.

Captain Tillet—How much would it cost to issue a daily isobaric weather chart for the part of the Far East between Shanghai and Cape Saint James?

The Chairman—Weather charts for the whole of the Far East, something like two million a year. We might want 500 stations in telegraphic connection with the colony. It could not afford to pay for an accurate isobaric weather service for the whole of the Far East.

Captain Tillet—It cannot be done then?

The Chairman—Not with the means at present at our disposal here. We get the observations, such as they are, for nothing and get them for

warded for nothing. We cannot find fault with those who so generously assist us. You now see that the issue of such information—such very expensive information—as they issue in Europe or America, is impossible for me here, through circumstances over which I have no control.

Meeting adjourned till Tuesday, the 26th September, at 3 p.m.

Third Meeting.

Tuesday, the 26th September, at 3 p.m. Present:—The Chairman, Commander Miller, R.N., Captain Tillet, Captain G. C. Anderson. Minutes of last meeting read and confirmed. The Chairman gave notice that he would call Mr. Figg to give evidence on such improvements as he could suggest and submit a report himself after Captain Anderson had spoken.

Captain Tillet—We have not seen your letter to the Colonial Secretary. Please read it to us.

The Chairman—It was laid on the table at the second meeting, but was not read. I will read it now (H.K.O. No. 81 read).

Letter objected to.

Decided that an explanatory letter be circulated among the members.

Captain Anderson—With reference to a forecast in a local newspaper "Extra" published on Wednesday, 20th September, at 4.45 p.m., was that forecast the result of telegraphic information received? If not, how was it known in the Observatory that the centre of the storm was near the northern entrance of the Formosa Channel?

The Chairman—On the 20th at 10.5 a.m. the following notice was issued:—"Centre of typhoon now situated near northern entrance to Formosa Channel, and the red north cone was hoisted. That was the result of a telegram received from Amoy at 9.54 a.m., giving the usual 9 a.m. observations and another received from Shanghai at 10.15 a.m. to a query. If these telegrams had not been received here we should not have known where the centre was situated."

Captain Anderson—Are we correct in assuming from what Mr. Figg told us at our last meeting that the reasons put forward for not being able to supply forecasts in time for the morning's "Extra" is that you do not receive weather reports by wire in time and frequently not at all from the most important stations?

The Chairman—Yes, that is so.

Captain Anderson—Supposing proper telegraphic weather reports were furnished in time for the Observatory, would it be possible to give forecasts, say for the regions between here and the Philippines and between here and Japan or Shanghai, not necessarily by means of isobars, but by using proper judgment and having regard to the wind force, state of barometer, thermometer, &c., at the different stations?

The Chairman—Yes; if the reports were sufficient in number and accuracy.

Captain Anderson—The observations made at the various stations placed in proper telegraphic communication with Hainan and stations on the north coast of Luzon, South Cape (Formosa), and Hainan in Hainan, as well as the China coast ports, would it be possible to lay down the tracks of typhoons, say, coming from the Bache Channel, and publish at intervals the latitude and longitude of the centres and the direction in which the storm is travelling approximately?

The Chairman—Yes; that could be done in case of typhoons coming from that direction, but very many typhoons originate in the China Sea, and then we cannot give the longitude and latitude, as long as the China Sea is not surrounded by proper telegraphic reporting stations.

Captain Anderson—Is the Hongkong Observatory in communication officially or otherwise with the authorities of the Manila Observatory and Zikawei?

The Chairman—Yes. We are in constant communication and we exchange observations telegraphically in manuscript, and all the publications. We visit each other whenever possible and facilities are mutually granted for making observations in any one of those Observatories to the staff of the other Observatories; but I have not visited Luzon. The Jesuit Fathers are in a position to spend no end of money on their Observatories, and they can appoint any number of members. I believe in Zikawei they own as much as British Kowloon, and their income probably equals the income of the Colonial Government.

Captain Anderson—Would not hearty co-operation with these Observatories tend greatly to improve the information available here and enable forecasts to be made at least with regard to typhoons?

The Chairman—We co-operate as much as possible at present. Further co-operation, if possible, would mean loss of time.

Captain Anderson—Are there any material obstacles to such co-operation?

The Chairman—We do co-operate at present as much as is possible. We can co-operate, and there are no obstacles.

Captain Tillet—Would not telegrams from Amoy on the north coast of Luzon be useful?

The Chairman—Yes; but I hardly think we would get them regularly or in time. The Spanish land lines do not seem to act satisfactorily in all cases. They do not seem to get their reports in time in Manila. The Manila telegrams reach here over a land line which is often interrupted, and this line is much shorter than the line to Amoy. We do not receive them in time; but it seems the Jesuit Fathers will till they receive our 10 a.m. messages and warnings, then they issue their telegrams.

Captain Tillet—I should think Manila the most important station in the Far East. Is that so?

The Chairman—By no means! South Cape is perhaps the most important station, but they are all more or less important. We need more cables should depend upon the whole system and not upon a single station. Now, the wind telegraphed from Manila is usually wrong owing to deflection from the mountains and the tower. The barometer is of some importance, but it is sometimes wrongly transmitted. Bollsno is more important, and we can have information from there at any time during the day.

Captain Tillet—But I understand observations were made there by the officials of the Eastern Extension Company. Could their observations be trusted?

The Chairman—Yes. I should trust them more than any others, simply because they are not biased.

Captain Tillet—How do you mean? Biased against the Colony, or against yourself, or whom?

The Chairman—They are not biased in making observations because they have not got any theories, or preconceived notions about phenomena, and do not claim any scientific knowledge of meteorology. They observe and transmit anything they see, and ask for information about the weather if they think it looks bad. That is what I mean when I say they are not biased. The word is used in that sense by scientific observers.

Captain Tillet—Please show us some of the telegrams and let us have the opportunity of seeing for ourselves how late they are received.

The Chairman—Here is the book. Now, see. In the first half of July the 9 a.m. message was received at 2 p.m.; 7 o'clock at 12.15 p.m.; Amoy at 11 a.m.; Swatow at 11.30 a.m. and noon. Since then there has been a decided improvement, due to the interest of Mr. von Fiedler, the manager in China of the Eastern Extension Telegraph Company, takes in the matter. I called a few years ago on Mr. Judd, the manager, but Mr. Judd told me he would not do anything further, as our reports were not appreciated by the public.

Captain Tillet—The Spanish Consul gets telegrams concerning typhoons from Manila. Does he send them to you?

The Chairman—No; because I get them at the same time as he does.

Captain Tillet—Are they of much use to you?

The Chairman—We never make any use of such information. We construct our warnings on the basis of the observations we have, and on nothing else. We cannot take other kind of information into account, except, of course, in case of certain observations were implied.

Captain Tillet—You get two wires from Manila this morning, did you not?

The Chairman—Just before 9 a.m. Bollsno reported threatening weather. At 9.15 a.m. Mr. Figg issued the notice: "The typhoon is now east of and approaching Bollsno," and requested Bollsno to kindly observe every hour. At 11.14 a.m. we received notice from Manila that a typhoon was N.E. (three) and approaching the island. At 11.15 a.m. we received the observations made at 10 a.m. in Manila. Our telegrams are forwarded to all the stations in connection with the foreign telegraph companies between Wladivostok, Tokio, Manila, and Singapore.

Captain Tillet—I think we should have a shorthand reporter. If the Government will not go to the expense perhaps the Chamber of Commerce will do so.

Commander Miller, R.N.—I quite agree with you. It is not necessary for ourselves, but it would be more satisfactory to the public who take a lively interest in this Committee.

The Chairman—I am opposed to it as we cannot converse so freely when a reporter is present; but I will write in about it.

The meeting adjourned till October the 4th, at 3 p.m.

Today's

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Hongkong, 9th October, 1893. 11028

NOTICE.

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H. HYNDMAN.

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Hongkong, 9th October, 1893. 11094

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On view from Friday, the 13th instant. TERMS OF SALE:—As customary.

GEORGE F. LAMBERT, Auctioneer.

Hongkong, 9th October, 1893. 11095

GOVERNMENT NOTIFICATION.

No. 355.

THE following Particulars and Conditions of Sale of Crown Land, by Public Auction, to be held on the spot, on MONDAY, the 16th day of October, 1893, at 4 P.M., are published for general information.

By Command, G. T. M. O'BRIEN, Colonial Secretary.

Colonial Secretary's Office, Hongkong, 29th September, 1893. 11093

Particulars and Conditions of the letting by Public Auction Sale, to be held on Monday, the 16th day of October, 1893, at 4 P.M., by Order of His Excellency the Governor, of One Lot of CROWN LAND at Wongkeichong Village, in the Colony of Hongkong, for a term of 999 years, viz.:

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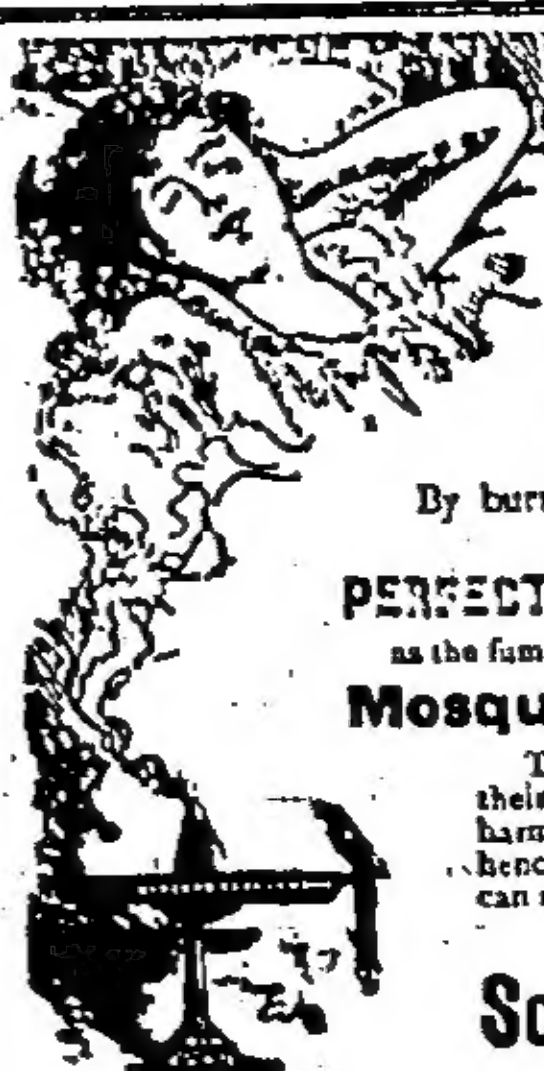
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